Neuropsychological studies of amygdala function in schizophrenia

by

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ABSTRACT OF THESIS

Introduction: The human amygdala plays a central role in emotional and social cognition. There is extensive evidence that the amygdala is structurally abnormal in individuals with schizophrenia. However, only a narrow range of neuropsychological tests have been used to investigate amygdala function in schizophrenia. This study aimed to determine whether subjects with schizophrenia are impaired on a range of neuropsychological tests dependent on the amygdala. **Method:** Two studies were conducted. In the first study subjects with schizophrenia and matched control subjects participated in tests of facial emotion recognition and social cognition known to depend upon the amygdala. In the second study emotional memory formation was tested in subjects with schizophrenia and control subjects. **Results:** Patients with schizophrenia showed deficits in all three tests of amygdala function. In tests of facial emotion recognition patients with positive symptoms were impaired in recognising basic facial emotions, particularly the emotion of fear. In tests of social cognition subjects with schizophrenia had overall deficits in social judgement that were present independent of symptom status. In tests of the emotional memory subjects with schizophrenia showed a significant deficit in enhancement of recognition memory for emotional stimuli, and a more selective deficit in enhancement of recall for the most arousing emotional scenes. **Discussion:** The finding of deficits in the performance of subjects with schizophrenia on three tests of amygdala function provides strong convergent evidence for abnormal function of the amygdala in schizophrenia. Dysfunction of the amygdala may contribute to the deficits in social and emotional function that are characteristic of schizophrenia.

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